the Economics of Vegetable Production (selected crops) in Alberta

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The Economics of Vegetable Production in Alberta

(Peas, Beans, Fresh Corn and Carrots)

1982

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FOREWORD

Alberta produces only 20 per cent of the vegetables sold through retail outlets in the province. Given this shortfall in production there is growing interest in increasing vegetable production in the province. Several factors may account for this shortfall in production. This study reports on the economics of vegetable production in 1982, bearing in mind the weather conditions prevailing during the production period. We trust that growers in particular will carefully scrutinize the cost estimates, compare them with their own operations, and look at ways of reducing unit costs.

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NOTE

The data for this report were compiled by G.N. Chaudhary from Alberta Agriculture, Production Economics Branch. He was, however, unable to complete this report because of other assignments.

Appreciation goes to each participating producer for his time and effort in providing the data.

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I. INTRODUCTION

Canadian statistics indicate that the average annual consumption of vegetables (excluding potatoes) sold commercially is approximately 63 kg per person. The Alberta vegetable industry supplies only 20 per cent of the total quantity of vegetables consumed in the province. Therefore, there is great potential for expanding the Alberta vegetable industry, providing the economic parameters are favorable for such expansion. The main aim of this report is to ascertain, at least for some vegetable crops, the economic parameters and the cost of producing vegetables in Alberta, as well as to analyse some of the factors encountered in cost determination. This report is the final of a series of reports initiated in 1979.

In addition to the main focus of the report - to determine the cost of production for the primary industry, the participating producers have received individual business summaries for use in making management decisions.

The growers' associations were very helpful in assisting with the sample selection. The number of participating producers fluctuated as follows: 73 in 1979, 37 in 1980, 61 in 1981, and 21 in 1982. The sample of 21 producers in 1982 was much smaller than expected and data from only four enterprises - peas, beans, fresh corn and carrots - showed meaningful results. Consequently, the report will focus on these four crops. The data obtained for additional vegetable crops such as processed corn, cabbage, beets, pumpkin and turnips were not converted into group averages because the sample was too small. Participating producers, however, still received their individual business summaries for each enterprise submitted. The actual data for analysis were obtained from questionnaires completed by the producers with the assistance of the field staff.

Table 1 shows Alberta vegetable production in a Canadian context. Import and export statistics are included. 'Consumption' is defined as an apparent disappearance of available vegetables for food.

TABLE 1: PRODUCTION AND CONSUMPTION OF SELECTED VEGETABLES IN CANADA

	Alberta		Canada			
	Production	Food Consumption[1]	Production	Imports	Exports	Food Consumption
Fresh:			1981 Tonnes			
Cabbage	4491	15286	142640	39160	-	166413
Carrots	4899	18553	256510	52320	36810	201986
Corn	2025	5125	271620[3]	16660	-	55796
Onions	2232	15465	129120	74180	11040	168362
Rutabaga	2223	5685	103650	-	33360	61887
Other	N/A	56554	359820	519170	13970	615704
Processing:						
Peas	6633	6087	66350	990	7580	66273
Beans	1417	4386	42600	2220	2650	47755
Corn	12263	6110	85630	1650	26760	66516
Carrots	513[2]	1880	16240	4450	-	20467
Red Beets	600	582	5780	-	-	6250
Other	-	6244	37580	42540	11000	67978

(1) Estimated from the Canadian per capita consumption.

(2) Unusually low for this year, normally four times greater.

(3) Large portion is used for manufacturing inputs.

II. COST OF PRODUCTION CONCEPT

The cost summaries in this report are based on enterprise analysis. Namely, the expenses and income associated with a given enterprise are allocated from the total farm activities. Producers generally grow several vegetable crops on relatively small acreages. Therefore, allocating the appropriate outlays for each crop on the farm is not easy, because expenses such as utilities, fuel, etc. are purchased on a total farm basis and require a proper allocation among the crops. The cost information shown in the tables is the weighted averages of a particular vegetable enterprise.

Cost accounting is far from being a uniform practice. There are many distinctly different procedures. In this report the following major cost categories are recognized:

Direct Costs - the expenses directly associated with the enterprise or crop. For instance fertilizer, seed, crop insurance, etc. are actual outlays during the year for specific crops. The allocation among the crops is not needed.

Overhead Costs - this category includes actual outlays in the production year for the total farm. These supplies and services are not purchased for one particular crop, but for the whole farm. They are used within the farm as required. The allocation for each enterprise is determined by the amount or proportion of enterprise use of these services, usually in terms of acres or volume of production. For instance fuel or machinery costs are allocated among the crops according to the use.

Labour Costs - two major groups in this category are recognized: hired paid labour and unpaid family labour costs. Hired paid labour cost is the actual wages paid for hired help. This could include family members. The operator's labour hours may vary from almost nil on some farms to the total input of labour on others. The procedure has been to obtain a statement of labour hours for the operator and unpaid family members, then to apply an appropriate wage rate. By this method, it is felt that the process of valuing the family labour is equitable. The operator labour rate in 1982 was established at $7.00 per hour.

Although the operator and unpaid family labour cost is not an actual cash outlay, they represent a fair compensation for the living expenses of the family. The reward for management is shown in the final profit.

Capital Costs - this cost category can also be named "resource ownership cost". The previous cost categories must be paid regardless of the nature of the ownership of the capital, whether it's rented or owned. The capital cost category is composed of three major cost items: rent, depreciation and paid interest. The cost of rent is the actual outlay of cash rent or the crop share value. When the land is rented, there is no capital interest payment.

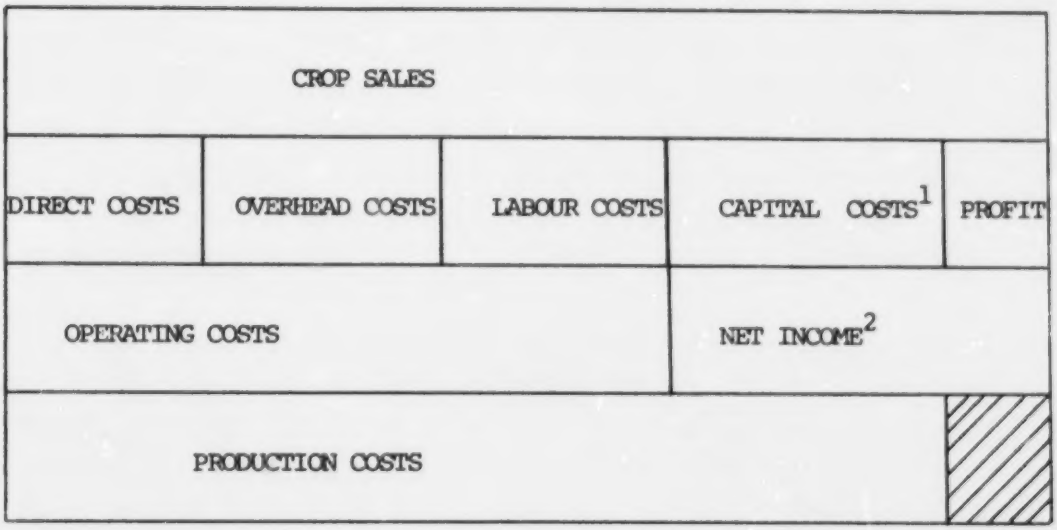
To establish the depreciation cost, the participating growers were asked to indicate the market value of their investment. The depreciation was then calculated by applying 5 per cent on buildings and 10 per cent on machinery. The value of depreciation is slightly overestimated by this method. Another procedure is to base depreciation on the original value of investment. Original value, however was not available since the study was focused on market value.

The paid interest is determined by calculating the 1982 composite interest actually paid by the enterprise on all long-term borrowed funds. The interest on operating loans is not included in this category.

Returns - the return to equity is the residual value when the sum of the production costs is deducted from the gross income. This annual value can then be expressed as a percentage of the owner invested equity and serve as an indication of the economic well being of the enterprise for a given year.

A given cost accounting method might be quite suitable for the group averages but it may not fit the needs of individual producers. The emphasis in this report is on the weighted average cost and the cost components are arranged in such a way as to avoid discrepancies between individual records. For example, if rent is included in the direct cost category as a cash cost, then the total direct cost is higher for growers who rent land and their capital cost would be small. This is corrected by including rent in capital cost category. A similar situation occurs in the hired and family labour category all of which are grouped in the labour costs category.

The following diagram depicts the cost concept used in the analysis:



[1] Capital Costs include: rent, depreciation, and paid interest.

[2] Net Income is money available for capital ownerhsip and profit.

III. METHOD OF ANALYSIS

Many approaches may be used to establish the cost of production on the farm. The approach taken in our study is to show the actual cost outlays taken from the farm records for a given production year.

The data were collected from a random sample of vegetable growers for the 12-month period in the 1982 calendar year. The questionnaire included data for total farm as well as each vegetable enterprise.

The available computer program (FBA) was utilized to do the simple task of summarizing the data and calculating the weighted group averages.

The computer printouts for four vegetables studied are displayed in the appendix.

IV. RESULTS

The cost data from the individual participating producer contained information for several vegetable crops. However only four enterprises - peas, beans, fresh corn and carrots - could be used in the group averages because of an insufficient number of participants having vegetable crops such as: processed corn, cabbage, turnips, beets, pumpkin, etc., group averages could not be computed for these crops. Information from these enterprises was provided on an individual basis.

Production Conditions[1]

Growing conditions were less than ideal for most fresh market crops because of a late spring and cool temperatures. Vine crops, particularly pumpkin and winter squash were late maturing in most regions of the province. Cole crops were of excellent quality as the cool temperatures improved the quality of cauliflower and cabbage in particular. Hail damage was extensive on many cabbage fields. Heavy rains in September and an early snow in October resulted in extensive losses of carrots and rutabagas, as freezing temperatures and wet soil conditions prevented harvesting of these crops.

Processors in the province had a successful year with good quality in most crops. Dockage was generally higher as a result of immaturity. Considerable damage from hail in peas and corn reduced yield and quality. Corn was generally late maturing. Improvements in harvesting methods such as the adoption of pea pod strippers and high density bean harvestors are continuing.

TABLE 2: TEMPERATURE, PRECIPITATION AND SUNSHINE DATA FOR THE GROWING PERIOD MAY 12 TO SEPTEMBER 13, 1982. (BROOKS)

Month	Growing Period No. of Days Above -1.6°C	Frost-free Period Above 0°C (days)	Precipitation (mm)	Sunshine (hours)	Corn Heat Units (CHU)
May 12	20	-	38.5	188.3	179.6
June	30	29	40.5	283.0	530.3
July	31	31	65.2	323.7	636.5
August	31	31	27.7	306.0	567.0
September 13	13	13	8.3	83.9	191.2
Totals	125	104	180.2	1184.9	2104.6
30-Year Average	135.2	114.6	197.8	1280.1	

[1] Based on the Alberta Horticultural Research Center's, 1982 annual report.

Production Costs And Returns

In order to make individual farm situations more comparable, the cost should be expressed on a "per acre basis". That is, each receipt and expense item is divided by the associated number of acres for the particular enterprise.

Controlling expenses is an important job of the manager of any business. The first step in expense control is to know what the expenses are for, the various goods and services purchased, and how they compare both with previous years and with others in the same business. The profitability of any enterprise would depend on the relationship between the product price and the input prices and their relative changes over the years.

Net farm income shows the amount of money available for payment for ownership of the resource or capital, i.e. for rent, depreciation and long term interest charges. The rental and ownership costs i.e. interest and depreciation, are substitutable. Producers who rent would have

minimal interest committments and vice versa. When the cost of ownership is greater than the net income generated by the farm, the resulting profit or return to equity is negative. This was true for three of the vegetables studied: beans, fresh corn and fresh carrots.

The following tables summarise the individual producer records for each vegetable crop. In this study the number of producers by enterprise was relatively small. Normally, the quality of data improves with the number of participants in each particular group average.

The variation of data in small samples can be significant. The group averages resulting from such small numbers of producers (peas 10, beans 4, corn 5 and carrots 4) are more sensitive and may be influenced by data from one producer. This could be explained by factors such as size of the farm or proper allocation of resources among the crops on one farm. If the allocation of overhead expenses is not correct, then the cost estimates of growing individual vegetables are likely to be incorrect and misleading.

Peas - the estimates of cost of production were based on 10 producer records selected from 85 pea growers, and are presented in Table 3. Total operating costs on sample farms in 1982 amounted to $389.82 per acre. Of this, the seed and hauling expenses were most significant and accounted for $86.62 and $86.59 per acre respectively.

The operating expenses accrue regardless of whether the land is rented or owned. The ownership or capital cost, which includes expenses for rent, interest and depreciation was $115.39 per acre or 22.8 per cent of total cost. In 1982 the total cost of producing peas was $505.22 per acre, as compared with $529.10 per acre a year ago.

The average yield of 1.77 tonnes in 1982 generated income of $516.40 per acre. In addition, $45.43 per acre was received from insurance, resulting in a total gross income of $561.83 per acre.

After operating expenses were deducted from the gross income, a net income of $172.01 per acre was achieved and the balance of $56.62 per acre remained as return to equity (invested value) or profit. In 1981 this value was $86.80 per acre for growing processing peas.

Investment in land, improvements and machinery for growing peas was $2,740 per acre.

TABLE 3: COST OF PRODUCING PEAS

	Group Average	Your Farm
Number of Acres	60.80	
Yield (Tonnes)	1.71	
Investment: Land	1,897.00	
Other	843.00	
	- - - - - - - - $/Acre - - - - - - -	
Crop Sales	516.40	
Insurance Receipts	45.43	
Other Receipts		
A. GROSS INCOME	561.83	
Fertilizer	41.43	
Chemicals	14.23	
Seed	86.62	
Crop Insurance	12.35	
DIRECT COSTS:	154.63	
Fuel, Oil and Grease	27.57	
Utilities	4.07	
Machinery & Bldgs. Repairs	43.42	
Taxes, Water & Insurance	15.93	
Custom Work	20.30	
Interest - Operating Loans	13.98	
Hauling & Other Expenses	86.59	
OVERHEAD COSTS:	211.86	
Hired Labour	5.26	
Family Labour	18.07	
LABOUR COSTS:	23.33	
B. TOTAL OPERATING COSTS	389.82	
Rent	5.67	
Depreciation	90.98	
Interest - Capital Loans	18.74	
C. CAPITAL COSTS	115.39	
D. TOTAL PRODUCTION COST(B+C)	505.22	
NET INCOME (A-B)	172.01	
Return to Equity (Profit) A-D	56.62	

Beans - the cost of producing beans in Alberta for processing is displayed in Table 4. The sample consists of 4 out of 15 producers registered by the marketing board to grow beans in the province.

The operating cost amounted to $551.71 per acre. The most significant cost outlays in bean production were seed and hauling costs, which accounted for $114.37 and $136.86 per acre respectively. Labour accounted for 8.8 per cent of the total cost or $63.76 per acre.

The capital cost amounted to $170.84 per acre or 23.6 per cent of total cost. This cost was composed of rent at $52.50 per acre, depreciation at $68.23 per acre and interest at $50.11 per acre. The total cost of growing beans in 1982 was $722.55 per acre, up $94.95 per acre from 1981.

The sample bean producers in 1982 realized a net income of $161.06 per acre for beans. The actual ownership of capital, however, exceeded this amount by $9.78 per acre, leaving a negative profit.

Sample farms averaged 2.92 tonnes of beans per harvested acre and the investment reached $2,896 per acre.

Fresh Corn - the production costs for fresh corn are displayed in Table 5. The average operating cost totalled to $539.94 per acre. The single most significant item in operating cost was hauling, at $140.30 per acre, followed by hired labour cost of $60.52 per acre.

The capital cost accounted for 24.6 per cent of total cost or $176.20 per acre, slightly higher than the two previous crops. The total cost was $716.14 per acre and compares with $686.73 per acre in 1981.

The gross income generated from the sale of corn in 1982 reached only $600.59 per acre. This was not significant enough to offset the cost and was $115.55 per acre short of breakeven.

The net income of $60.65 per acre was not large enough to cover the $176.20 per acre of ownership cost. The small yield of 2.68 tonnes per acre from the sample farms was mainly responsible for the low income achieved in 1982.

The investment on corn farms was $2,639 per acre.

TABLE 4: COST OF PRODUCING BEANS

	Group Average	Your Farm
Number of Acres	20.0	
Yield (Tonnes)	2.92	
Investment: Land	2,232.00	
Other	664.00	
	- - - - - - - - $/Acre - - - - - - -	
Crop Sales	712.77	
Insurance Receipts	-	
Other Receipts		
A. GROSS INCOME	712.77	
Fertilizer	31.00	
Chemicals	32.75	
Seed	114.37	
Crop Insurance	13.58	
DIRECT COSTS:	191.70	
Fuel, Oil and Grease	30.74	
Utilities	23.75	
Machinery & Bldgs. Repairs	32.63	
Taxes, Water & Insurance	32.51	
Custom Work	36.65	
Interest - Operating Loans	3.13	
Hauling & Other Expenses	136.86	
OVERHEAD COSTS:	296.27	
Hired Labour	21.13	
Family Labour	42.61	
LABOUR COSTS:	63.74	
B. TOTAL OPERATING COSTS	551.71	
Rent	52.50	
Depreciation	68.23	
Interest - Capital Loans	50.11	
C. CAPITAL COSTS	170.84	
D. TOTAL PRODUCTION COST(B+C)	722.55	
NET INCOME (A-B)	161.06	
Return to Equity (Profit) A-D	-9.78	

TABLE 5: COST OF PRODUCING CORN

	Group Average	Your Farm
Number of Acres	69.0	
Yield (Tonnes)	2.68	
Investment: Land	1,606.00	
Other	1,033.00	
	- - - - - - - - $/Acre - - - - - - -	
Crop Sales	600.59	
Insurance Receipts		
Other Receipts		
A. GROSS INCOME	600.59	
Fertilizer	47.68	
Chemicals	18.79	
Seed	40.78	
Crop Insurance	3.72	
DIRECT COSTS:	110.97	
Fuel, Oil and Grease	39.97	
Utilities	11.38	
Machinery & Bldgs. Repairs	50.61	
Taxes, Water & Insurance	21.06	
Custom Work	24.10	
Interest - Operating Loans	24.56	
Hauling & Other Expenses	140.30	
OVERHEAD COSTS:	311.98	
Hired Labour	60.52	
Family Labour	56.47	
LABOUR COSTS:	116.99	
B. TOTAL OPERATING COSTS	539.94	
Rent	42.03	
Depreciation	80.98	
Interest - Capital Loans	53.19	
C. CAPITAL COSTS	176.20	
D. TOTAL PRODUCTION COST (B+C)	716.14	
NET INCOME (A-B)	60.65	
Return to Equity (Profit) A-D	-115.55	

Fresh Carrots - the production costs for fresh carrots are presented in Table 6. The sample average indicates that the total operating cost in growing carrots in 1982 was $692.46 per acre. The most significant items in this category were seed, hauling and hired labour costs of $128.97, $114.46 and $96.22 per acre, respectively. The total labour cost accounted for $156.98 per acre or 17.1 per cent of the total.

The capital cost was $224.13 per acre, composed of rent, depreciation and interest of $33.94, $92.57 and $97.68 per acre, respectively.

After the operating cost was deducted from gross income, $189.50 per acre was left (net income) to cover the expenses of the capital ownership. The actual capital ownership cost however exceeded this amount resulting in negative profit of $34.63 per acre.

The average yield of sample farms growing carrots was 18.29 tonnes per acre. The average investment in land, buildings and machinery was $2,868 per acre - the highest of the vegetables studied.

Table 7 shows the cost summary and cost structure of four studied crops in 1982.

TABLE 6: COST OF PRODUCING CARROTS

	Group Average	Your Farm
Number of Acres	97.0	
Yield (Tonnes)	18.29	
Investment: Land	1,536.00	
Other	1,332.00	
	- - - - - - - - $/Acre - - - - - - -	
Crop Sales	881.96	
Insurance Receipts		
Other Receipts		
A. GROSS INCOME	881.96	
Fertilizer	36.04	
Chemicals	34.69	
Seed	128.97	
Crop Insurance	2.54	
DIRECT COSTS:	202.24	
Fuel, Oil and Grease	43.86	
Utilities	13.41	
Machinery & Bldgs. Repairs	65.34	
Taxes, Water & Insurance	17.79	
Custom Work	26.55	
Interest - Operating Loans	51.93	
Hauling & Other Expenses	114.36	
OVERHEAD COSTS:	333.24	
Hired Labour	96.22	
Family Labour	60.76	
LABOUR COSTS:	156.98	
B. TOTAL OPERATING COSTS	692.46	
Rent	33.94	
Depreciation	92.51	
Interest - Capital Loans	97.68	
C. CAPITAL COSTS	224.13	
D. TOTAL PRODUCTION COST(B+C)	916.59	
NET INCOME (A-B)	189.50	
Return to Equity (Profit) A-D	-34.63	

TABLE 7: SUMMARY AND COST STRUCTURE OF SELECTED VEGETABLES 1982

	Peas	Beans	Fresh Corn	Fresh Carrots
	- - - - - - - - - - - - - - per acre - - - - - - - - - - - - - -			
Direct Costs	154.63	191.70	110.97	202.24
Overhead Costs	211.86	296.27	311.98	333.24
Labour Costs	23.33	63.74	116.99	156.98
Capital Costs	115.22	170.84	176.20	224.13
Total Cost	505.22	722.55	716.14	916.59
Crop Sales	516.40	712.77	600.59	881.96
Investment ($)	2740.00	2895.00	2638.00	2868.00
Yield (tonnes)	1.7	2.9	2.7	18.3
Labour (hours)	2.87	9.99	18.67	29.07
	- - - - - - - - - - - - - - % of total - - - - - - - - - - - - - -			
Direct Costs	30.6	26.5	15.5	22.1
Overhead Costs	41.9	41.1	43.6	36.4
Labour Costs	4.6	8.8	16.3	17.0
Capital Costs	22.9	23.6	24.6	24.5
Total Costs	100.0	100.0	100.0	100.0

V. CONCLUSIONS

The size of the Alberta vegetable industry is limited by numerous factors. There are, however, two readily identifiable factors important in industry growth, namely seasonality of production and economic conditions. While the former is difficult to correct or reverse, the latter provides an avenue for improvements. The present production capacity of Alberta vegetables is far below the demand requirements. The economic forces can indeed dictate the desirable expansion of the industry.

Our task was to identify the economic parameters of growing some vegetables, namely peas, beans, fresh corn and carrots. While we understand the effect of the complexity of price determination on profitability, our focus here was on the level of cost of production and its components.

In conclusion, for three studied vegetables the given product price was insufficient to cover the cost of production in 1982. The growing of beans, however, provided a positive profit. It was also our objective to identify the various cost components so that each participant could compare his records with the group average. We hope this will enable each grower to be aware of his production costs and to help him in future management decisions.

APPENDIX

Peas CROP ENTERPRISE

		TOTAL	PER UNIT	PER ACRE
A.	INCOME			
	NUMBER OF ACRES	60.80		
	TOTAL PRODUCTION	104.23		1.71
	CROP VALUE	31397.27		516.40
	CROP INSURANCE RECEIPTS	2761.90		45.43
	MISCELLANEOUS RECEIPTS			
	GROSS INCOME	34159.17	327.72	561.83
B.	OPERATING COSTS			
	FERTILIZER	2518.65		41.43
	CHEMICALS	864.90		14.23
	SEED PURCHASED	5266.70		86.62
	HOME GROWN SEED			
	CUSTOM WORK HIRED	1234.20		20.30
	CROP AND HAIL INSURANCE	750.95		12.35
	CASH RENT AND CROP SHARE	344.90		5.67
	POWER MACHINERY - FUEL	1676.00		27.57
	POWER MACHINERY - REPAIRS	1053.70		17.33
	GENERAL MACHINERY - REPAIRS	810.00		13.32
	SPECIAL MACHINERY - REPAIRS	524.00		8.62
	MISCELLANEOUS EQUIPMENT	248.50		4.09
	BUILDING REPAIRS	3.50		0.06
	OPERATING CAPITAL INTEREST PD.	850.00		13.98
	UTILITIES	247.18		4.07
	OTHER INSURANCE	208.20		3.42
	PROPERTY TAXES	760.90		12.51
	ACCOUNTING AND LEGAL	65.00		1.07
	OTHER	5178.43		85.17
	HIRED LABOUR	320.00		5.26
	TOOLS PURCHASED	21.80		0.36
	DEPRECIATION - IMPROVEMENTS	70.10		1.15
	DEPRECIATION - MACHINERY	5461.39		89.83
	TOTAL OPERATING COSTS	28479.00	273.22	468.40
C.	PRODUCTION COSTS			
	OPERATING COSTS	28479.00		468.40
	INTEREST ON OWNED LAND			
	INTEREST ON IMPROVEMENTS			
	INTEREST ON MACHINERY			
	INTEREST ON SUPPLIES			
	INTEREST ON LONG TERM DEBT	1139.20		18.74
	OPERATOR'S LABOUR	1073.80		17.66
	FAMILY LABOUR	25.00		0.41
	TOTAL PRODUCTION COSTS	30717.00	294.70	505.21
D.	MANAGEMENT FACTORS			
	RETURN OVER OPERATING COSTS	5680.16	54.49	93.42
	RETURN TO EQUITY	3442.16	33.02	56.61
	LABOUR USED (HOURS)	174.40	1.67	2.87

		OPERATOR	LANDLORD	PER ACRE
E.	INVESTMENT ITEMS			
	SUPPLY INVENTORY	1608.75		26.46
	POWER MACHINERY	23278.20		382.86
	OTHER MACHINERY	24979.40		410.85
	BUILDINGS AND IMPROVEMENTS	1382.25		22.73
	LAND	103110.50	12250.00	1897.38
	TOTAL INVESTMENT	154359.00	12250.00	2740.28

Beans CROP ENTERPRISE

A. INCOME	TOTAL	PER UNIT	PER ACRE
NUMBER OF ACRES	20.00		
TOTAL PRODUCTION	58.34		2.92
CROP VALUE	14255.48		712.77
CROP INSURANCE RECEIPTS			
MISCELLANEOUS RECEIPTS			
GROSS INCOME	14255.48	244.34	712.77
B. OPERATING COSTS			
FERTILIZER	619.91		31.00
CHEMICALS	655.00		32.75
SEED PURCHASED	2287.50		114.37
HOME GROWN SEED			
CUSTOM WORK HIRED	733.00		36.65
CROP AND HAIL INSURANCE	271.58		13.58
CASH RENT AND CROP SHARE	1050.00		52.50
POWER MACHINERY - FUEL	614.75		30.74
POWER MACHINERY - REPAIRS	477.50		23.88
GENERAL MACHINERY - REPAIRS	150.00		7.50
SPECIAL MACHINERY - REPAIRS	25.00		1.25
MISCELLANEOUS EQUIPMENT			
BUILDING REPAIRS			
OPERATING CAPITAL INTEREST PD.	62.50		3.13
UTILITIES	475.00		23.75
OTHER INSURANCE	248.50		12.42
PROPERTY TAXES	401.75		20.09
ACCOUNTING AND LEGAL	147.00		7.35
OTHER	2590.37		129.52
HIRED LABOUR	422.50		21.13
TOOLS PURCHASED			
DEPRECIATION - IMPROVEMENTS	43.75		2.19
DEPRECIATION - MACHINERY	1320.75		66.04
TOTAL OPERATING COSTS	12596.36	215.98	629.82
C. PRODUCTION COSTS			
OPERATING COSTS	12596.36		629.82
INTEREST ON OWNED LAND			
INTEREST ON IMPROVEMENTS			
INTEREST ON MACHINERY			
INTEREST ON SUPPLIES			
INTEREST ON LONG TERM DEBT	1002.25		50.11
OPERATOR'S LABOUR	852.25		42.61
FAMILY LABOUR			
TOTAL PRODUCTION COSTS	14450.86	247.69	722.54

D. MANAGEMENT FACTORS			
RETURN OVER OPERATING COSTS	1659.12	28.44	82.96
RETURN TO EQUITY	-195.38	-3.35	-9.77
LABOUR USED (HOURS)	199.75	3.42	9.99

E. INVESTMENT ITEMS	OPERATOR	LANDLORD	PER ACRE
SUPPLY INVENTORY	287.50		14.38
POWER MACHINERY	8790.25		439.51
OTHER MACHINERY	3730.75		186.54
BUILDINGS AND IMPROVEMENTS	463.00		23.15
LAND	19637.50	25000.00	2231.87
TOTAL INVESTMENT	32909.00	25000.00	2895.45

Fresh Corn CROP ENTERPRISE

		TOTAL	PER UNIT	PER ACRE
A.	INCOME			
	NUMBER OF ACRES	69.00		
	TOTAL PRODUCTION	184.60		2.68
	CROP VALUE	41440.60		600.59
	CROP INSURANCE RECEIPTS			
	MISCELLANEOUS RECEIPTS			
	GROSS INCOME	41440.60	224.49	600.59
B.	OPERATING COSTS			
	FERTILIZER	3290.00		47.68
	CHEMICALS	1296.40		18.79
	SEED PURCHASED	2033.80		29.48
	HOME GROWN SEED	780.00		11.30
	CUSTOM WORK HIRED	1663.20		24.10
	CROP AND HAIL INSURANCE	256.80		3.72
	CASH RENT AND CROP SHARE	2900.00		42.03
	POWER MACHINERY - FUEL	2757.80		39.97
	POWER MACHINERY - REPAIRS	2511.20		36.39
	GENERAL MACHINERY - REPAIRS	409.20		5.93
	SPECIAL MACHINERY - REPAIRS	12.80		0.19
	MISCELLANEOUS EQUIPMENT	174.60		2.53
	BUILDING REPAIRS	384.00		5.57
	OPERATING CAPITAL INTEREST PD.	1694.38		24.56
	UTILITIES	785.20		11.38
	OTHER INSURANCE	717.50		10.40
	PROPERTY TAXES	735.80		10.66
	ACCOUNTING AND LEGAL	378.00		5.48
	OTHER	9303.80		134.84
	HIRED LABOUR	4176.00		60.52
	TOOLS PURCHASED			
	DEPRECIATION - IMPROVEMENTS	1803.40		26.14
	DEPRECIATION - MACHINERY	3783.80		54.84
	TOTAL OPERATING COSTS	41847.67	226.69	606.49
C.	PRODUCTION COSTS			
	OPERATING COSTS	41847.67		606.49
	INTEREST ON OWNED LAND			
	INTEREST ON IMPROVEMENTS			
	INTEREST ON MACHINERY			
	INTEREST ON SUPPLIES			
	INTEREST ON LONG TERM DEBT	3670.00		53.19
	OPERATOR'S LABOUR	3416.00		49.51
	FAMILY LABOUR	480.00		6.96
	TOTAL PRODUCTION COSTS	49413.67	267.68	716.14

D.	MANAGEMENT FACTORS			
	RETURN OVER OPERATING COSTS	-407.08	-2.21	-5.90
	RETURN TO EQUITY	-7973.08	-43.19	-115.55
	LABOUR USED (HOURS)	1288.00	6.98	18.67

E.	INVESTMENT ITEMS	OPERATOR	LANDLORD	PER ACRE
	SUPPLY INVENTORY	1804.60		26.1.
	POWER MACHINERY	16954.00		245.71
	OTHER MACHINERY	18357.10		266.04
	BUILDINGS AND IMPROVEMENTS	34135.00		494.71
	LAND	71800.00	39000.00	1605.30
	TOTAL INVESTMENT	143050.69	39000.00	2638.42

Fresh Carrots CROP ENTERPRISE

		TOTAL	PER UNIT	PER ACRE
A.	INCOME			
	NUMBER OF ACRES	97.00		
	TOTAL PRODUCTION	1773.75		18.29
	CROP VALUE	85550.00		881.96
	CROP INSURANCE RECEIPTS			
	MISCELLANEOUS RECEIPTS			
	GROSS INCOME	85550.00	48.23	881.96
B.	OPERATING COSTS			
	FERTILIZER	3496.00		36.04
	CHEMICALS	3365.00		34.69
	SEED PURCHASED	7910.50		81.55
	HOME GROWN SEED	4600.00		47.42
	CUSTOM WORK HIRED	2575.00		26.55
	CROP AND HAIL INSURANCE	246.50		2.54
	CASH RENT AND CROP SHARE	3291.75		33.94
	POWER MACHINERY - FUEL	4254.75		43.86
	POWER MACHINERY - REPAIRS	5050.25		52.06
	GENERAL MACHINERY - REPAIRS	250.00		2.58
	SPECIAL MACHINERY - REPAIRS	1038.25		10.70
	MISCELLANEOUS EQUIPMENT			
	BUILDING REPAIRS			
	OPERATING CAPITAL INTEREST PD.	5037.50		51.93
	UTILITIES	1300.50		13.41
	OTHER INSURANCE	1273.25		13.13
	PROPERTY TAXES	452.00		4.66
	ACCOUNTING AND LEGAL	813.00		8.38
	OTHER	10279.50		105.97
	HIRED LABOUR	9333.00		96.22
	TOOLS PURCHASED			
	DEPRECIATION - IMPROVEMENTS	3152.00		32.49
	DEPRECIATION - MACHINERY	5822.00		60.02
	TOTAL OPERATING COSTS	73540.75	41.46	758.15
C.	PRODUCTION COSTS			
	OPERATING COSTS	73540.75		758.15
	INTEREST ON OWNED LAND			
	INTEREST ON IMPROVEMENTS			
	INTEREST ON MACHINERY			
	INTEREST ON SUPPLIES			
	INTEREST ON LONG TERM DEBT	9475.25		97.68
	OPERATOR'S LABOUR	5894.00		60.76
	FAMILY LABOUR			
	TOTAL PRODUCTION COSTS	88910.00	50.13	916.60

D.	MANAGEMENT FACTORS			
	RETURN OVER OPERATING COSTS	12009.25	6.77	123.81
	RETURN TO EQUITY	-3360.00	-1.89	-34.64
	LABOUR USED (HOURS)	2819.50	1.59	29.07

E.	INVESTMENT ITEMS	OPERATOR	LANDLORD	PER ACRE
	SUPPLY INVENTORY	3586.00		36.97
	POWER MACHINERY	29969.50		308.96
	OTHER MACHINERY	33628.75		346.69
	BUILDINGS AND IMPROVEMENTS	62019.75		639.38
	LAND	14000.00	135000.00	1536.08
	TOTAL INVESTMENT	143204.00	135000.00	2868.08

POOR

QUALITY

ORIGINAL